MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2018/2019

TRS2251 – ROUTING AND SWITCHING

(All Sections / Groups)

25 OCTOBER 2018
9.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 4 printed pages including cover page with 5 questions only.

2. Attempt **ALL** questions. Marks and the distribution of marks for each question is given.

3. Please write all your answer in the Answer Booklet provided.

Question 1 [10 Marks]

(a) Briefly explain the difference between a port address, a logical address and a physical address.

[3 Marks]

(b) Briefly explain what is meant by Network Address Translation (NAT). How can NAT help in IP address depletion?

[3 Marks]

(c) Outline the difference between the routing protocol and routed protocol.

[2 Marks]

(d) What is a network "protocol"?

[2 Marks]

Question 2 [10 Marks]

(a) Explain **TWO** different types of address allocation in DHCPv4.

[4 Marks]

(b) With an aid of diagram, specify the basic operation of DHCP.

[4 Marks]

(c) Briefly explain syslog operation.

[2 Marks]

Question 3 [10 Marks]

(a) Briefly explain what is meant by dynamic routing.

[1 Mark]

(b) Give **THREE** main components of dynamic routing.

[3 Marks]

(c) Discuss **TWO** advantages and disadvantages of dynamic routing.

[4 Marks]

(d) Compare between Interior Gateway Protocol (IGP) and Exterior Gateway Protocol (EGP).

[2 Marks]

Continued...

Question 4 [10 Marks]

(a) Discuss **TWO** benefits of a converged network.

[2 Marks]

(b) Compare the following switch forwarding methods.
i. Store and forward
ii. Cut through

[2 + 2 = 4 Marks]

(c) Differentiate between legacy inter-VLAN and router-on-a-stick inter-VLAN routing.

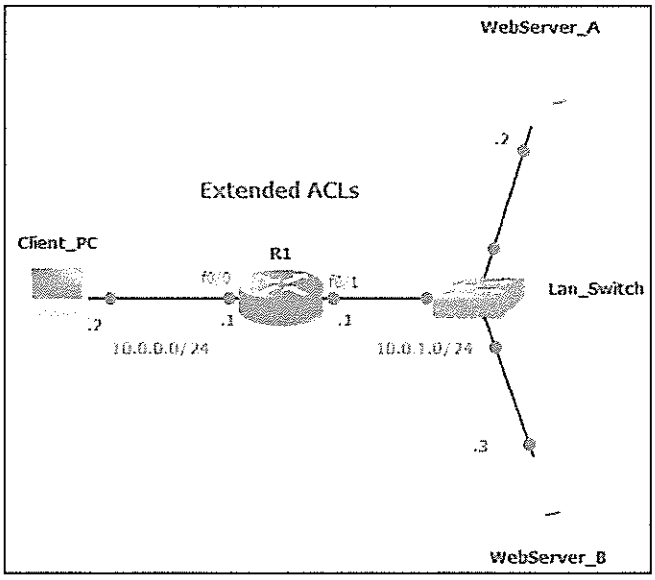
[4 Marks]

Question 5 [10 Marks]

(a) Compare between standard and extended Access Control List (ACL).

[4 Marks]

(b) Explain what would happen if you applied the following access list to Router **R1** in the below exhibit.




```
access-list 100 deny tcp host 10.0.0.2 host 10.0.1.2 eq www
access-list 100 permit ip any any

interface fastEthernet 0/0
ip access-group 100 in
```

[4 Marks]

Continued...

(c) Given the following IP address:

137.137.50.137/28

Find the following:

i. Subnet mask.
ii. Subnet network address.
iii. Broadcast address of the subnet.
iv. Total number of usable hosts per subnet.

[0.5 + 0.5 + 0.5 + 0.5 = 2 Marks]

End of Paper